FISHERIES INFORMATION SHEET- MISSISSIPPI RIVER, POOL 8, RICHMOND BAY ISOLATED POND

WATERBODY: ISOLATED POND ADJACENT TO RICHMOND BAY
COUNTY: LA CROSSE **YEAR**: 2019

The WDNR sampled a normally isolated 0.4-acre pond (Waterbody Identification Code 5561652) adjacent to the Black River Channel, Pool 8 of the Mississippi River during early spring of 2019 (Figure 1). In response to proposed potential alterations, we evaluated fish spawning potential, habitat value and use. We used standard fyke nets set at a 10 ft depth, targeting yellow perch, and recorded their abundance and reproductive condition. We netted a total of 30 net-days (equivalent to 3 nets for 10 days). Water temperatures varied between 35.2 to 45.7º F. Northern pike and yellow perch spawn within this temperature range.

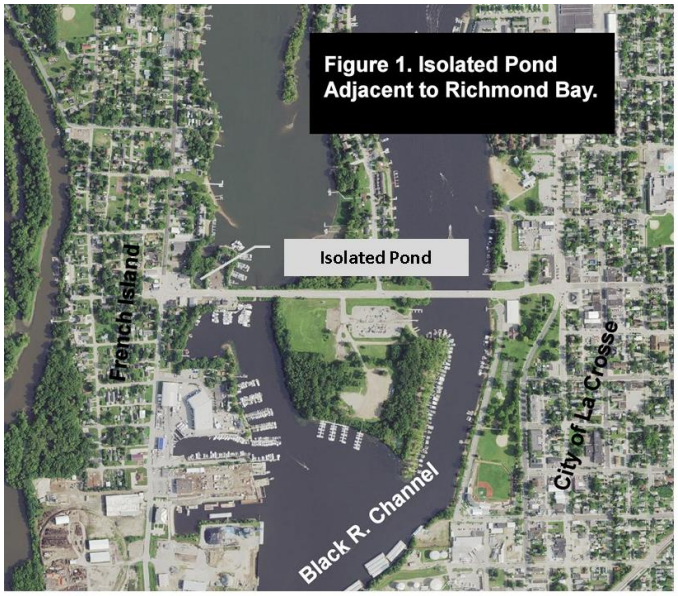


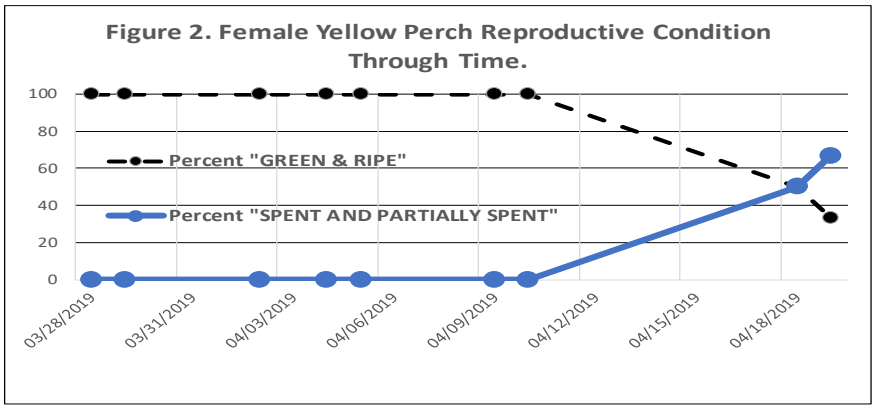
Figure 1. Isolated Pond Adjacent to Richmond Bay.

Fisheries crews caught 383 fish and 12 species during 11 dates from March 28 through May 2. Yellow perch numerically dominated the catch (302) followed by bluegill, black crappie and northern pike (Table 1).

Table 1. Isolated Pond Catch, Spring 2019.

Obs	NAME	COUNT	PERCENT
1	black crappie	16	4.2
2	bluegill	41	10.7
3	bowfin	3	0.8
4	brown bullhead	4	1.0
5	green sunfish x bluegill	1	0.3
6	largemouth bass	1	0.3
7	northern pike	6	1.6
8	spotted sucker	1	0.3
9	white bass	2	0.5
10	white crappie	4	1.0
11	yellow bass	2	0.5
12	yellow perch	302	78.9
	ALL SPECIES	**383**	**100.0**

We netted until the percent of spent (recently expelled eggs) yellow perch females exceeded 50, which occurred on April 19. Fisheries crews caught no females after this date. This suggests we sampled before and during the yellow perch spawning period (Figure 2). In addition, on April 18, we found yellow perch eggs deposited on a net.



We caught 26 female yellow perch, of which 23 bore eggs. Females varied in size from 5.6 to 12.3 inches (mean= 9.4). We caught 271 males, all of which expressed milt. Males varied from 3.0 to 12.3 inches (mean= 7.0). Figure 3 depicts length distribution by sex.

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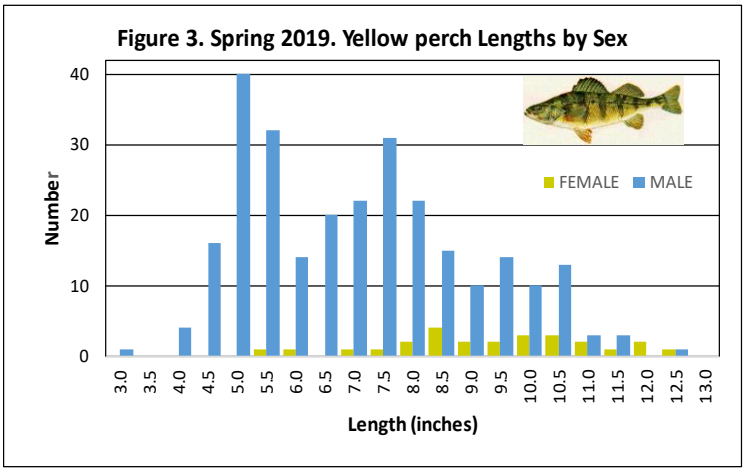
In addition to documenting spawning yellow perch, we also found evidence of northern pike spawning. Netting crews recorded a total of 6 northern pike: 3 males and 3 females. Male size ranged from 21.3 to 28.3 inches; females from 28.9 to 32.1 inches. On April 9, we recorded two females as reproductively ripe (ready to expel eggs). On April 10, we found one female partially spent. It's no surprise we found so few fish. This species prefers flooded marshes with emergent vegetation. Few emergents grow in this pond, since it is steep-sided and lined with rip-rap.



We calculated similar yellow perch catch rates (number of fish per net-day) compared to previous spring surveys at other locations within the same temperature window. In the present survey, we caught an average of 9.90 fish per net-day (n=30). During previous surveys, the WDNR caught 10.82 fish per net-day. For northern pike, we calculated lower catch rates in this pond (0.20 vs. 6.62).


Yellow perch caught in isolated pond.
Plump individuals are gravid females.

In summary, this isolated pond provides spawning habitat for early spring yellow perch and northern pike. Other fishes may use this location later in the season. It's likely that spawning fish don't have access during all springs. High water levels result in a hydrologic connection to the Black River Channel. During low spring floods, this connection may be absent, preventing adult fish immigration and larval fish emigration. However, recent abnormally high spring and summer water levels have likely increased the frequency of successful reproductive use.

The small size of this pond probably limits fish use although its location is important. There are few nearby shallow ponds or wetlands near the Black River Channel used for spawning. Most have been filled and only two others remain: Car Street Marsh (0.7 miles downstream, 2 acres) and Wittenberg Marsh (2.5 miles upstream, 84.9 acres). Using LTRMP Land Cover data (https://umesc.usgs.gov/ltrm-home.html), we estimated a total of 1370 acres in the vicinity of the Black River Channel in 1890. By 2010, 86.9 acres remained – a 93.7 percent reduction.


View of pond, facing southeast.
April 5, 2019.